USDA Forest Service

New KM Web Site

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SPRA

1.0 Executive Summary

The existing USDA Forest Service (FS) Knowledge Management (KM) Web site needs updating and revamping. The basic design for the user interface for the new site has been accomplished. *REVISED*

See attached CD for all necessary files and documentation for the FS architecture.

Oracle links

- On-line demos[1]
- Step-by step tutorials[2]
- Technical resources[3]
- Discussion forum[4]

2.0 Background

The new design addresses two separate, but intertwined requirements:

- Input of data, using a Web-enabled form.
- Output to the site, using a Web-enabled database.

The following forms, associated with the KM inventory, will be visible to and could be filled in (through the browser) by anyone who can log into the site:

  - initiative_entry.htm
  - practice_entry.htm
  - project_entry.htm
  - system_entry.htm
  - tool_entry.htm

The remainder forms will be accessible only to those individuals who log into the site as "super users." *REVISED*

Having stated the difference between users and "super users," the developer should consider using the Wiki[5] technology to enable *all* users to modify the site.

As most forms will require authentication in order to fill them out and submit, the developer should provide the coding to automatically identify the user submitting the form. *NEW*

3.0 Environment *REVISED*

Initially, the new KM Web site will be hosted within the existing FS intranet. The development environment will be as follows:

- Java 2 enterprise edition (J2EE) to fit within the FS architecture and its overall goal and objectives.
- Use Macromedia Dreamweaver MX to create the FS templates for data driven Web pages. These template could then be included in the by dynamic Web pages during rendition. The developer may design dynamic pages to allow authenticated users to edit contents or create new page instances.
- Use a shareware Java application programming interface (API) packages to create really simple syndication (RSS)[6] feeds.
- The authentication Webservice is running on Oracle 10g application server. Users will be authenticated by the use of their Lotus short name and Internet password.

- The J2EE application server is Oracle 10gAS.
- The back-end database is Oracle 8i/9i.
- The preferred enhanced intelligent device (IDE) is Oracle JDeveloper.[7]
- There is a wide variety of J2EE choices, such as Struts, Spring, Hibernate, Java database connectivity (JDBC), plain old Java object (POJO), Java data object (JDO), and enterprise JavaBeans (EJB). The developer should use open technologies in lieu of vendor specific solutions, such as Oracle business components for Java (BC4J) or Oracle UIX.[8]
- The content management system (CMS) is Stellent, which runs on a J2EE platform. It may serve to cut down the development effort for this project, since most of the features, e.g., taxonomy and search, may come right out of the box.[9]

4.0   Requirements[10]

All links to pages outside the new KM Web site should be opened in a new window. Using the right code, add the following warning statement: "You are leaving the USDA Forest Service Web. The next site may have a different privacy policy. You may want to review the privacy policy at the next site. Click OK to continue."

To ensure that content is kept current, each posted article will be marked for its owner with the posting date. The coder will develop the necessary JavaScript to send a message to the originator of the article when it is:

- Older than 60 days – to verify it is still current.
- Weekly up to 90 days of posting – to verify it is still current.

Each message will have to be answered within 7 days to indicate if the article is still current, should be archived, or should be deleted. If the owner does not respond within the specified time, the article will automatically be archived.

- Add a floating JavaScript floating "top of page" button.[11]
- Add a JavaScript for "page last modified" to each page.[12]
- Add page ranking by visitors; tie to a separate database for analysis.
- Add scrolling messages to the top of the home page with the ability to add new ones. See the FAA example.[13]
- Add the ability to track site statistics.[14]
- Add the ability to subscribe through the use of RSS. *REVISED*
- Create server-based archive agents in the various databases to ensure they work properly, e.g., work when needed and delete the copy in the original database.
- Delete the script folder if not used.
- Each new posting will carry the " *NEW* " icon for two weeks after it is posted to the site. The developer will provide the proper coding to that effect.
- Ensure that all content posted in plain text or Microsoft Word will be converted into hyper text markup language (HTML) in the background.
- Ensure that all required fields are coded as such.
- Ensure that all tables are displayed and printed within the margin *independent of* screen size and resolution.

- Ensure that the existing FS search engine is fully functional across the new KM Web site. Search should be in two categories: (1) within the KM site and (2) within the FS. *REVISED*

- Find an inexpensive, appropriate HTML spell checker for the Java Talk Back applet.

- Fix all relative links to ensure the site displays correctly within the browser.

- Mimic the appearance of the intranet home page[15] throughout, while suggesting a gentler color scheme.

- The site and scripts should be Section 508 compliant.

- The site should comply with OBM Memorandum M-05-04.[16] [Note: This requirement will apply *only* when this becomes a public site.]

- Unless otherwise indicated, ensure that all databases are sorted by date for display through the browser.

- Use the browser for uploading to or revising all content on the site.

- Where applicable, set all radio buttons to "yes" by default. Allow the users to change it to "no" if they so wish.

- Wherever possible, refrain from the use of the <div> and <p> commands. Remove from the existing design and replace as appropriate. *REVISED*

5.0   Database design

The databases created for hosting the content gained through the use of the forms shall be designed as follows:

- When authenticating into the site, the users will see two buttons at the top of each page: "New" and "Edit." Clicking on "New" will bring up the appropriate form for adding a new entry to that page. Clicking on "Edit" while check marking a specific line in the database will bring up that entry in the same form for revision. *REVISED*

- Clicking on the "Post" button will enter the content from the form into the applicable database. The developer should write the proper script to enter the information into the appropriate cells in the database.

- Sorting should be as indicated within each page below.

6.0   Security

There are public concerns about security issues associated with Microsoft Internet Explorer and the tendency of hackers to develop malicious code to take advantage of certain vulnerabilities in this browser. To alleviate these concerns, the developer will make this Web site browser neutral by making it possible for FS managers and staff to use the Mozilla Firefox[17] or Opera[18] browsers.

7.0   Testing

All developed code should be subject to testing for threats, vulnerability assessment, and remediation and mitigation. Particular attention should be given to the ability of hackers to insert "malware" in the code.

8.0   Archive

This site will supplement the new KM Web site and will be used to archive several categories of documents from the Web site. The search parameters should be modified to include items in the archive. The associated taxonomy will also need to be developed.

9.0 Books

- Sort alphabetically.

10.0 Events

- Create an agent to delete events older than Today.
- Each event name should be automatically linked to the URL.
- Sort by date.

11.0 FAQ

- Sort alphabetically.

12.0 Files database

- URL should be automatically generated by the server.
- Sort by file name.

13.0 Executive Advisory Board

- Each name of the executive should be linked to the e-mail address.
- Sort by name.

14.0 Glossary

- Add a "jump to" the first letters of glossary entries at the top of the page.
- Sort alphabetically.

15.0 Initiatives

- Sort alphabetically.

16.0 KM News

- Each news caption should be linked to the URL.
- Sort by date.

17.0 Knowledge Quiz

Create a new database, using the PowerPoint presentation on the server.
- Assign points to each question and keep a tally of the score.
- At the completion of the quiz, show the user's score and how he/she did vs. the highest score ever achieved.
- For each question, use a drop down menu for the selection of the answers.
- Provide a dialogue box to have the user fill in her or his name for tracking her/his score to within the database.
- Use a negative splash screen for an incorrect answer.
- Use a positive splash screen for a correct answer.

18.0 Links

- Consider to have the links in each category listed in a separate pop-up window.

- Sort alphabetically within each category.
- The name should be linked to the URL.

19.0 Projects

- Sort alphabetically.

20.0 Repository

- Consider to have the documents in each category listed in a separate pop-up window.
- Enable posting the content of a whole CD.
- Provide a way to add new categories on the fly.
- Sort alphabetically within each category.

21.0 Stories

- Sort alphabetically.

22.0 Survey

Develop the capability to create quick, online surveys "on the fly." Deposit the results in the back end database for compilation and analysis.

23.0 Talk Back

- Sort alphabetically within the "See what others have said" database.
- The developer will write the script enabling the input to be inserted into the appropriate cell of "See what others have said" database when the user agrees to share his comments with others.
- When clicking on the "Submit" button, ensure that the e-mail message is sent to Susan Dreiband[19] without the need to first open the Lotus Notes client. A pop-up window should then appear, thanking the user for the submission. *REVISED*

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Appendix A – Acronyms

API	Application programming interface
BC4J	Business components for Java
CD	Compact disk
CMS	Content management system
EJB	Enterprise JavaBeans
FS	USDA Forest Service
HTML	Hyper text markup language
IDE	Enhanced intelligent device
J2EE	Java 2 enterprise edition
JDBC	Java database connectivity
JDO	Java data object
KM	Knowledge management
POJO	Plain old Java object
RSS	Really simple syndication
USDA	US Department of Agriculture

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[1] http://www.oracle.com/technology/products/jdev/viewlets/viewlet.html
[2] http://www.oracle.com/technology/obe/obe9051jdev/index.htm
[3] http://www.oracle.com/technology/products/jdev/index.html
[4] http://www.oracle.com/technology/products/jdev/index.html
[5] For example: http://www.twiki.org/
[6] For example http://rss-specifications.com/
[7] http://www.oracle.com/technology/software/products/jdev/index.html
[8] http://www.oracle.com/technology/products/ids/uix/index.html
[9] Donavan Albert is the CMS program manager for the FS.
[10] Apply to all databases
[11] For example: http://www.jsmadeeasy.com/javascripts/Navigation/Floating%20top-of-page-button/template.htm
[12] For example: http://www.jsmadeeasy.com/javascripts/Page%20Details/Page%20last%20modified/template.htm
[13] http://ksharing.faa.gov
[14] For example http://awstats.sourceforge.net/
[15] http://km/fsweb.htm on the CD
[16] http://www.whitehouse.gov/omb/memoranda/fy2005/m05-04.pdf
[17] http://www.mozilla.org
[18] http://www.opera.com
[19] mailto:sdreiband@fs.fed.us